

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-3. (Canceled)

Claim 4. (Currently Amended) An upward signal amplifier, provided on a transmission line between center equipment of a bi-directional CATV system and a terminal device, for externally attaching to an existing CATV amplifier comprising:

a downward amplifying circuit for amplifying a downward signal;

an upward L amplifying circuit for amplifying an upward L signal, which is an upward signal in a first frequency band lower than a second frequency band of the downward signal;

a first terminal and a second terminal for respectively connecting the existing CATV amplifier to the transmission line on a center equipment side and on a terminal device side;

a pair of second filters, respectively connected to the first terminal and the second terminal, and to the downward amplifying circuit, for cutting off the upward L signal and selectively passing only the downward signal;

a pair of third filters, respectively connected to the first terminal and the second terminal, and to the upward L amplifying circuit, for cutting off the downward signal and selectively passing only the upward L signal; and

wherein the upward signal amplifier comprises:

an upward H amplifying circuit for amplifying an upward H signal, flowing upwardly through the transmission line and in a third frequency band higher than the second frequency band of the downward signal;

a third terminal and a fourth terminal for respectively connecting the upward signal amplifier to the transmission line on the center

equipment side and on the terminal device side;

a fifth terminal and a sixth terminal for respectively connecting the upward signal amplifier to the first terminal of the existing CATV amplifier and to the second terminal of the existing CATV amplifier;

a pair of first filters, respectively provided between the third terminal and the fifth terminal and between the fourth terminal and the sixth terminal, for cutting off the upward H signal and selectively passing the downward signal and the upward L signal; and

a pair of fourth filters, respectively provided between the third terminal and the upward H amplifying circuit and between the fourth terminal and the upward H amplifying circuit, for cutting off the downward signal and the upward L signal and selectively passing only the upward H signal;

~~set forth in claim 3, further comprising:~~

a pair of power separation filters, provided at least either between said third terminal and said first and fourth filters, or between said fourth terminal and said first and fourth filters, for separating alternating current power signals for a power supply, transmitted from an external power unit to the third terminal or the fourth terminal via said transmission line, from each of said downward, upward L and upward H signals; and

a power supply circuit for generating a power voltage to operate said upward H amplifying circuit and supplying the power voltage to the upward H amplifying circuit upon receipt of the alternating current power signals separated at one of the pair of power separation filters,

wherein the alternating current power signals separated at an[[the]] other of the pair of power separation filters are output[[ted]] from said fifth terminal or sixth terminal to the first terminal of said existing CATV amplifier~~for inputting the downward signal and outputting the upward L signal~~ or the second terminal ~~for inputting the upward L signal and outputting the downward signal~~ of said existing CATV amplifier.

Claim 5. (Currently Amended) An upward signal amplifier set forth in claim

4, wherein

said fourth filters ~~[[are ]]constitute[[d of]]~~ high pass filters capable of cutting off said alternating current power signals;

said first filters ~~[[are ]]constitute[[d of]]~~ low pass filters capable of passing the alternating current power signals;

~~the one of said pair of power separation filters that~~which supplies the alternating current power signals to said power supply circuit, ~~includesis constituted of the fourth filter and a first choke coil connecting between either of said third terminal or fourth terminal and said power unit;[[ and]]~~

the other of said pair of power separation filters ~~that~~which supplies the alternating current power signals to said existing CATV amplifier, ~~is constituted of the low pass filter constituting the first filter includes a second choke coil connecting between the either of said third terminal or fourth terminal and a corresponding said fifth terminal or said sixth terminal.~~

Claim 6. (Canceled)

Claim 7. (Currently Amended) A bi-directional CATV system ~~set forth in claim 6~~comprising: [[,]]

a transmission line between center equipment and terminal devices,  
a plurality of existing CATV amplifiers comprising:

a downward amplifying circuit for amplifying a downward signal;

an upward L amplifying circuit for amplifying an upward L signal, which is an upward signal in a first frequency band lower than a second frequency band of the downward signal;

a first terminal and a second terminal for respectively connecting the existing CATV amplifier to the transmission line on a center equipment side and on a terminal device side;

a pair of second filters, respectively connected to the first

terminal and the second terminal, and to the downward amplifying circuit, for cutting off the upward L signal and selectively passing only the downward signal;

a pair of third filters, respectively connected to the first terminal and the second terminal, and to the upward L amplifying circuit, for cutting off the downward signal and selectively passing only the upward L signal;

a corresponding upward signal amplifier externally attached to each of the plurality of existing CATV amplifiers comprising:

an upward H amplifying circuit for amplifying an upward H signal, flowing upwardly through the transmission line and in a third frequency band higher than the second frequency band of the downward signal;

a third terminal and a fourth terminal for respectively connecting the upward signal amplifier to the transmission line on the center equipment side and on the terminal device side;

a fifth terminal and a sixth terminal for respectively connecting the upward signal amplifier to the first terminal of the existing CATV amplifier and to the second terminal of the existing CATV amplifier;

a pair of first filters, respectively provided between the third terminal and the fifth terminal and between the fourth terminal and the sixth terminal, for cutting off the upward H signal and selectively passing the downward signal and the upward L signal; and

a pair of fourth filters, respectively provided between the third terminal and the upward H amplifying circuit and between the fourth terminal and the upward H amplifying circuit, for cutting off the downward signal and the upward L signal and selectively passing only the upward H signal;

wherein in the plurality of existing CATV amplifiers connected to said transmission line via said upward signal amplifier, the fourth terminal

and the sixth terminal of the upward signal amplifier provided for a first existing CATV amplifier, located at a predetermined distance from the center equipment side, are terminated at the characteristic impedance of the transmission line,

a second terminal ~~for inputting upward L signal and outputting downward signal~~ of the first existing CATV amplifier and a first terminal ~~for inputting downward signal and outputting upward L signal~~ of a second existing CATV amplifier, located at ~~at the next stage~~ next to the first existing CATV amplifier, are directly connected via the transmission line,

the fifth terminal of the upward amplifier provided for said second existing CATV amplifier is terminated at the characteristic impedance of the transmission line, and

the third terminal of the upward signal amplifier provided for the second existing CATV amplifier is connected to the center equipment via an optical transmission path capable of converting an electrical signal to an optical signal,

so that an upward H signal transmitted from the upward signal amplifier provided for the second existing CATV amplifier[[s]], located closer to the terminal device than the ~~second~~ first existing CATV amplifier, is directly transmitted to the center equipment via the optical transmission path.